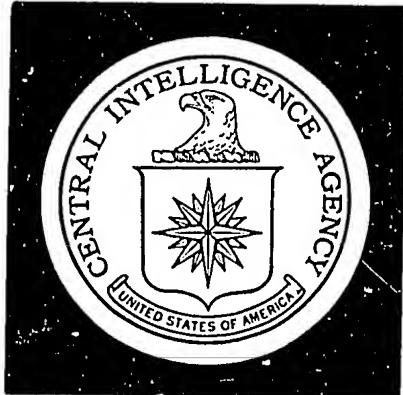


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DIRECTORATE OF
INTELLIGENCE

Intelligence Memorandum

Recent Construction On The Ho Chi Minh Trail

Secret

ER IM 71-185
September 1971

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
September 1971

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INTELLIGENCE MEMORANDUM

RECENT CONSTRUCTION ON THE HO CHI MINH TRAIL

Conclusions

1. With better and shorter logistical routes, the North Vietnamese will be able to move more supplies faster and with less exposure to bombing in the impending dry season than in previous ones.
2. The sizable expansion of the road net coincides with large US troop withdrawals. Moreover, the Allied interdiction effort will be burdened with about 30% more road mileage, which means that densities will be lighter on any given route segment, and greater dispersal will make traffic less vulnerable to attack.
3. Because of the continuous maintenance this rainy season, the Laotian road net will probably emerge from the rains in better condition than it has from any previous rainy season.

Discussion

Introduction

4. The North Vietnamese increased road building activities in southern Laos significantly during the 1970-71 dry season, opening new routes and increasing the mileage of the Ho Chi Minh Trail by approximately 30%. Prior to the 1970-71 construction season, the Ho Chi Minh Trail in Laos consisted of approximately 1,700 miles of single-lane unpaved roadway, most of which had been constructed since 1965 at the rate of about 300 miles per season. During the last dry season the Communists added more than 500 miles of well-constructed new roads, bringing the total mileage built to 2,200 (see Tables 1 and 2). Most of this new construction consisted of bypasses along established entrance corridors,

Note: This memorandum was prepared by the Office of Economic Research and coordinated within CIA.

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extensive work on two new logistical corridors, and improvements to the logistical network serving Communist forces in southern Laos.

Table 1

**The Pace of Road Construction by Dry Season
Since 1965 a/**

	<u>Statute Miles</u>
Road net in existence as of June 1965	300
October 1965 to May 1966	365
October 1966 to May 1967	120
October 1967 to May 1968	280
October 1968 to May 1969	315
October 1969 to May 1970	300
October 1970 to May 1971	515
<i>Total</i>	<i>2,200</i>

a. Because of rounding, components may not add to total shown.

5. As in many parts of the world, road construction in Laos normally is determined by the weather cycle. In the Laotian Panhandle in previous years, new roads were built and major repairs and improvements made to the existing road net during the dry season, which extends from October through May. During the remainder of the year, work was generally limited to the repair and maintenance required to keep a few key arteries open between major enemy bases. During the 1970 and 1971 rainy seasons, the North Vietnamese retained a large construction cadre who continued to expand and improve the road net wherever possible.

Entrance Corridors from North Vietnam

6. Maintenance of the border entrance routes was a special problem early in the 1970-71 construction season because of daily Allied saturation bombing and unseasonably heavy rains that caused sections to become impassable. To counter the effects of the bombing and rains, the North

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Table 2

Road Construction
 October 1970 - May 1971 a/

	Statute Miles
Entrance corridors	<u>98.0</u>
Route 912	51.5
Route 1032	31.0
Other entrance roads	15.0
New central corridors	<u>252.0</u>
Route 99	139.0
Route 9211	31.5
Ban Phone bypass	8.0
Unnumbered road	23.0
Route 9147	24.0
Route 2341	13.0
Other road segments	14.0
Western corridor	<u>78.0</u>
West of Muong Phine along Route 9	40.0
Bypasses around Saravane	22.5
Other construction along Route 23	15.5
New eastern route	<u>36.0</u>
Route 103/608	23.5
Route 926/616	12.5
Other construction in the Panhandle	<u>51.0</u>
<i>Total</i>	<i>515</i>

a. Because of rounding, components may not add to totals shown.

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Vietnamese built more than 50 miles of bypasses along Route 912 (see the map) including an additional cross-border bypass route south of the original road. They also added several bypasses to Route 1032 through the southwestern corner of the DMZ. Meanwhile, the other entrance corridors - Mu Gia Pass, Ban Raving Pass, and the Se Bang Hiang River Valley - required daily maintenance and repair during the bombing program.

The New Central Corridor: Routes 99 and 9211

7. Even though the intense bombing campaign and heavy rains especially during October created additional work for the North Vietnamese, they nevertheless continued the construction of a new north-south route farther south in the Panhandle. This new route -- Route 99 -- with its network of bypasses is located parallel to and slightly west of Route 92, a primary axis of the original Ho Chi Minh Trail. The Route 99 complex totaled about 140 miles by June 1971, and the Communists were continuing to add bypasses and make other improvements. This new route permits traffic to avoid stretches of Route 92 that were difficult to keep open even during the dry season and which became impassable in the rainy season.

8. In December 1970 the North Vietnamese began and by June 1971 had completed most of the alignment of Route 9211, which will connect the southern portion of Route 99 with Route 16 at the village of Ban Phone near the northern edge of the Bolovens Plateau. At about the same time they completed a short bypass along Route 16 around Ban Phone and started minor improvements to Route 16 south of Ban Phone. Between December and May the Communists also built a poor-quality road north from Route 962 towards the Se Kong south of Ban Phone. This road, if extended, would connect Route 962 with Route 16, although a ferry crossing at the Se Kong would be necessary.

9. Because of its geographic location, Ban Phone is likely to become an important center of logistical activities in the 1971-72 dry season. Traffic entering Ban Phone from the north, via the new corridor, could continue south to Attapeu along the foot of the eastern escarpment of the Bolovens Plateau or westward onto the northern reaches of the Plateau. If the poor-quality road off Route 962 were extended to the Se Kong, traffic could move southeasterly to a main route of the original Ho Chi Minh Trail leading into Vietnam near the junction of the borders of Laos, Cambodia, and South Vietnam.

10. The primary advantage of this new central corridor is that it shortens the distance by 40 miles from base areas near the northern end of Route 99 to Attapeu in southern Laos. This represents a saving of almost two days' travel time and consequently offers much less exposure to bombing.

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11. The central corridor also opens new areas of Laos for the enemy's logistical use. It passes through areas of dense vegetation, which provides good ground concealment for logistical facilities and personnel and helps prevent erosion and landslides. Most of the terrain in this area has better load-bearing soils than corresponding portions of the original north-south roads of the Ho Chi Minh Trail. In addition, about half of the central corridor is close to or parallels the Se Kong River, which flows into northern Cambodia and eventually joins the Mekong. A waterborne supply system with numerous highway transfer points has already been in operation for some time along portions of this new corridor, and such a system would easily supplement the road net.

12. During the South Vietnamese Army (ARVN) invasion of Laos in February and March 1971, the North Vietnamese built a bypass, Route 2341, around the forward ARVN positions on Route 914. This bypass allowed traffic to move from Route 914 directly onto Route 99 and hence south. A second bypass, Route 9147, was built to connect Route 9 west of Tchepone with Route 914. During the rainy reason a spur road was extended southwest to Route 23. In the 1971-72 dry season Route 9147 will permit traffic to avoid the heavily bombed fords of Route 914 at the Se Bang Hiang River. Both Routes 9147 and 2341 may become primary arteries between Tchepone and base areas near the northern end of Route 99 during the 1971-72 dry season.

The Western Corridor

13. During the past construction season the North Vietnamese also made substantial improvements and additions to Route 23 and its network of bypasses and connecting roads. Although this corridor runs generally in a north-south direction, its importance to the enemy has not been so much in moving supplies into South Vietnam as it has in providing logistical support to its fighting forces in southern Laos. In March 1971, following a large-scale operation by Laotian irregular troops near Muong Phine at the junction of Routes 9 and 23, the North Vietnamese rebuilt and improved roads leading southwest around the Laotian irregular positions. As the fighting shifted west along Route 9, the North Vietnamese built 40 miles of tactical roads parallel to Route 9 and west of Muong Phine. Farther south, long bypasses were rebuilt around the Saravane area and improvements were made to Route 23 just north of the Bolovens Plateau. At the same time they upgraded a little-used east-west trail, Route 233, which connects Route 99 of the new central corridor to Route 23. Despite these improvements, and despite the fact that Route 23 was originally built by the French to higher standards than most roads of the Ho Chi Minh Trail, the North Vietnamese usually maintain and use Route 23 only in the dry season and even then it is vulnerable to harassment by Laotian irregulars.

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The New Eastern Route

14. A new route is under construction that will, when completed, connect North Vietnamese Route 103 in the western DMZ and Routes 102 and 120 in the center of the DMZ with the A Shau Valley without crossing the border into Laos (see the photograph). This route lies on the eastern slope of the Annamitique Mountains and therefore is in the weather cycle of the coastal area of northern South Vietnam, which has favorable logistical weather in July and August and has its heaviest rains at the beginning of the dry season in the Laotian Panhandle.

15. The northern portion of this new route is completed from Route 103 in the western DMZ south into South Vietnam. A short gap separates this part of the new route from a road alignment that joins Route 608 near the former US base at Khe Sanh and is connected to the Ho Chi Minn Trail by Route 925. The Communists are also constructing road segments at the northern end of the new route in the central DMZ and south of Route 9 off Route 616 which leads into the A Shau Valley.

16. When construction of all road gaps is completed, the road distance between the DMZ and the A Shau Valley will be shortened from 125 miles to approximately 65 miles, a saving of 60 miles or about two days' travel time. Moreover, the Communists would save 20 miles in moving from the DMZ to Khe Sanh rather than moving west through Laos and back into South Vietnam. When the new route is connected to Routes 102 and 120 in the central DMZ, and hence the excellent coastal road net in North Vietnam, even more distance and time would be saved in traveling from logistical complexes near the ports of Quang Khe and Dong Hoi.

17. The Communists could use the new route through northern South Vietnam during part of the Laotian rainy season because the weather cycle east of the Annamitique Mountains differs slightly from the weather sequence west of the mountains. During the height of the Laotian rainy season in July and August, northern South Vietnam has weather more favorable for logistical purposes than Laos just 20 miles away. When the rains shift in September, however, the Laotian road net begins to dry out and traffic could be diverted there while the Khe Sanh area undergoes its rainy season. Also, daily rains over South Vietnam east of the mountains are usually less severe and of shorter duration than rains over Laos and consequently cause less damage to roads.

18. Another advantage of this new road is an accident of geography. Because the new route roughly parallels the coastal tidelands of South Vietnam in which the population lives, supplies heading south move progressively closer to key enemy base areas near these population centers. But as supplies go down the original Ho Chi Minh Trail, they gradually

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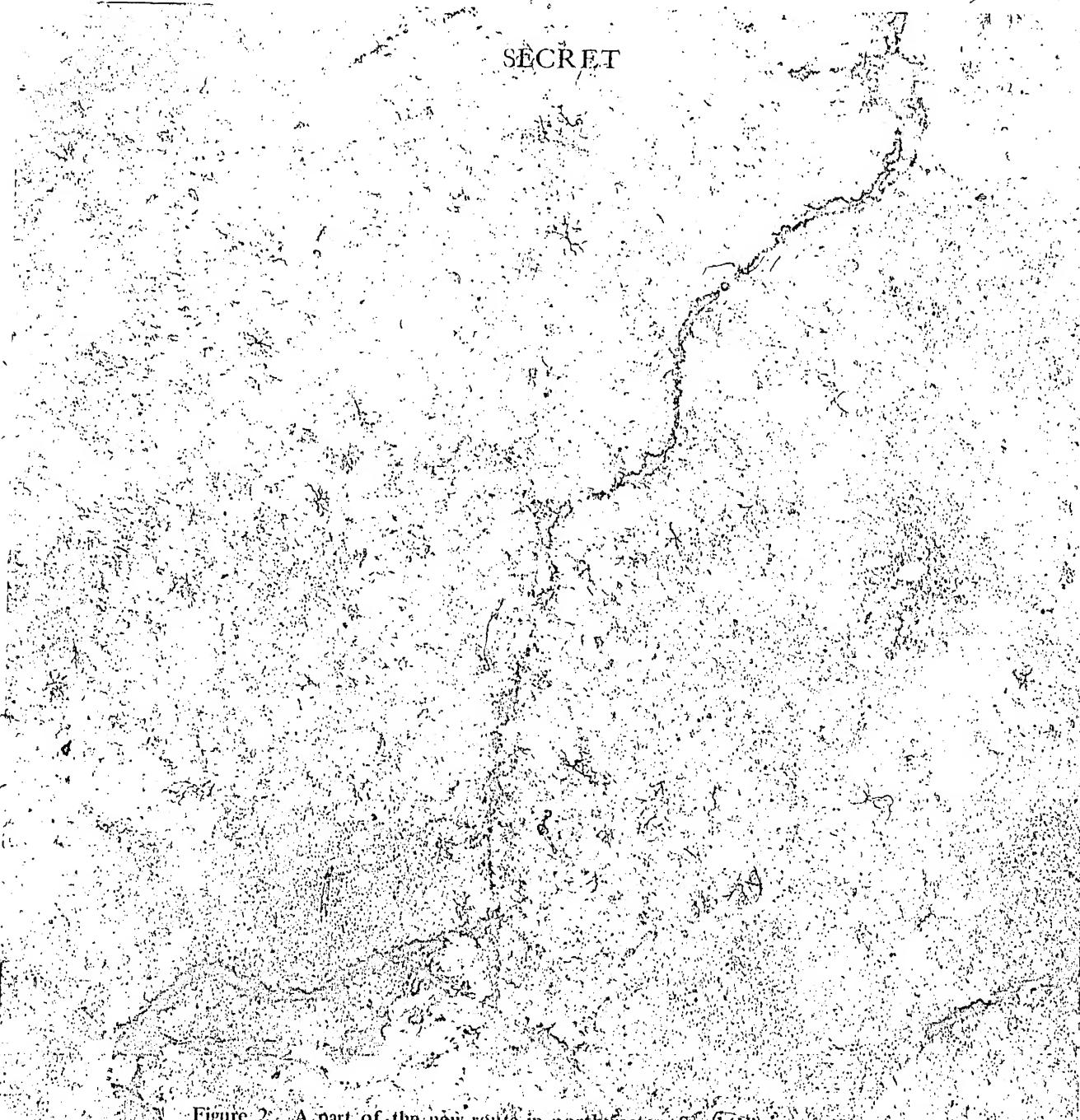


Figure 2: A part of the new route in northwestern South Vietnam about 3 miles south of the DMZ and about 12 miles north of the former US combat base at Khe Sanh. Roadbuilding and maintenance is more difficult in the rugged terrain separating this area from the DMZ than it is along the stream beds that the new route follows south to Khe Sanh.

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diverge from the South Vietnamese coast because the trail is aligned in a general north-south direction. The geography of this new route also permits enemy units and logistical activities to outflank the major ARVN defenses in northern South Vietnam. These defensive strong-points are located along and north of Route 9 and are oriented toward traditional infiltration routes across the eastern end of the DMZ.

The 1971 Rainy Season

19. As in previous rainy seasons, enemy logistical traffic through August was hampered by muddy roads, land slides, bomb damage, and impassable water crossings. For example, tropical storm Harriet hit Indochina near the DMZ on 8 July, and two days later key roads were open in fair to good condition. However, the North Vietnamese were unable to keep water crossings passable during this period as high water levels temporarily closed most fords and swift currents made ferrying a slow and risky alternative.

20. Communist forces in the Laotian Panhandle are continuing to repair and to improve major supply routes during the current rainy season. According to aerial observers, extensive grading and graveling of the entrance corridors continues and the enemy is still making repairs to key north-south arteries. During brief respites from the rain, road crews and bulldozers have been seen attempting to maintain motorable access to base areas located near Tchepone, Ban Bac, Chavane, and the Bolovens Plateau.

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SOUTH LAOS AREA

Major Road Net

— New road construction,
1970-71 dry season
— Motorable route,
1970-71 dry season

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A scale bar at the bottom of the map showing distances in Statute Miles and Kilometers. The top part is labeled "Statute Miles" and has tick marks at 0 and 25. The bottom part is labeled "Kilometers" and has tick marks at 0 and 25. The two bars are aligned vertically.

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SOUTH LAOS AREA

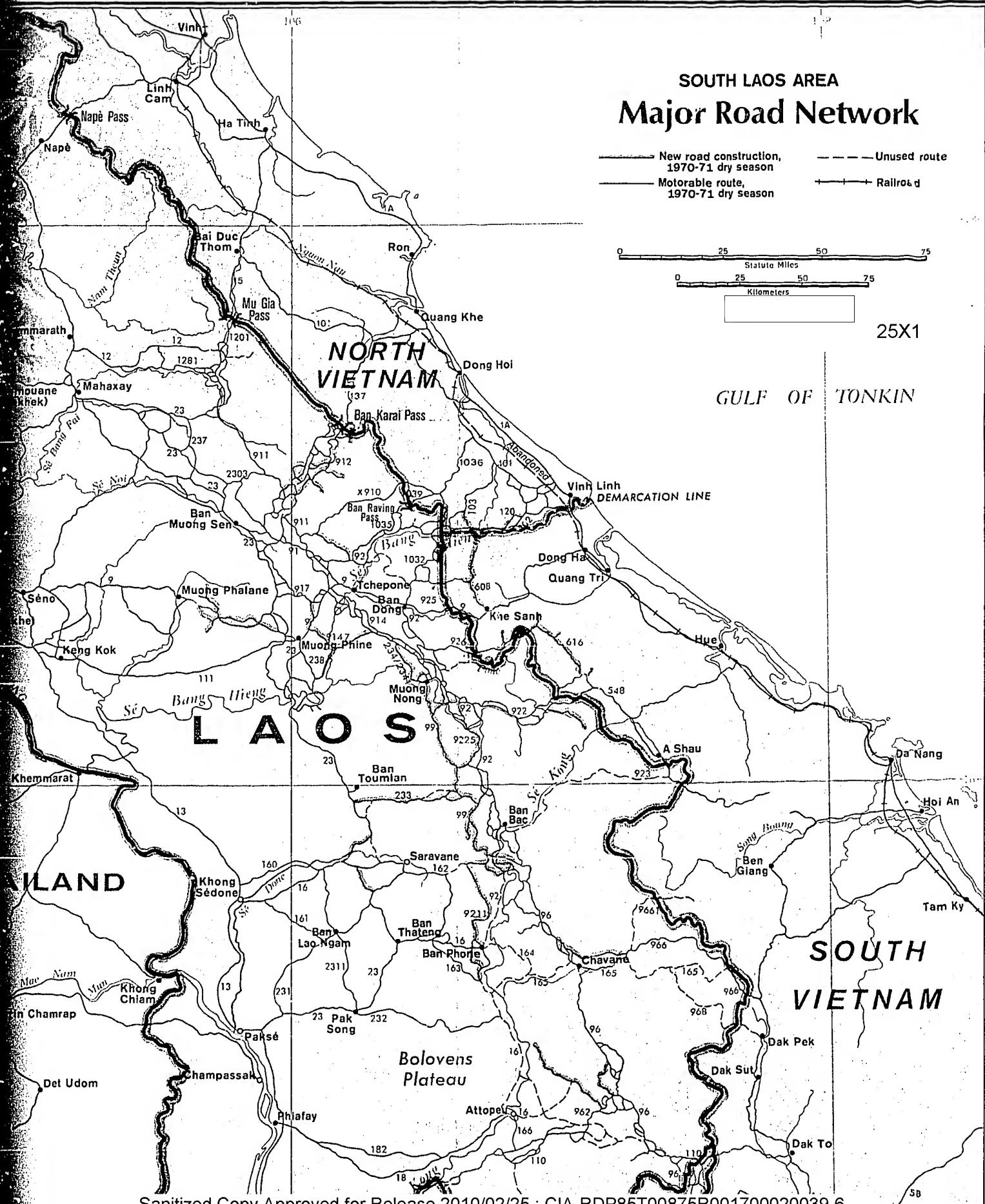
Major Road Network

— New road construction,
 1970-71 dry season
 — Motorable route,
 1970-71 dry season
 - - - - - Unused route
 - - - Railroad

0 25 50 75
 Statute Miles
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 Kilometers

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GULF OF TONKIN



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NORTH VIETNAM

LAOS

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GULF OF TONKIN

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Kilometers

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GULF OF TONKIN

Kilometers

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